Ambient Ocean Monitoring Survey of the Ocean Discharge for Virgin Islands Rum, Industries, Ltd (VIRIL), St. Croix, U.S.V.I.

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Virgin Islands Rum Industries, Ltd. (VIRIL) is a rum manufacturing facility located in St. Croix, U.S.V.I. The rum manufacturing process generates wastewater that is discharged to the ocean via a discharge pipe on the south coast of St. Croix. The outfall is located approximately 1,900 feet from the shore. The effluent forms a visible dark plume that starts at the discharge point and typically travels 5.5 to 6 miles westward, approximately 2,000 feet from shore.

VIRIL's discharge is regulated by the U.S.V.I. government by means of a TPDES permit. The Caribbean Basin Economic Recovery Act (CBERA), passed by Congress in 1983, exempts this discharge from certain portions of the Clean Water Act, specifically from effluent limitations, national standards, and ocean discharge criteria. Among the conditions of the exemption is the determination, by the Governor of the Virgin Islands, that the discharge will not interfere with attainment of water quality necessary to protect public health and to prevent adverse effects on biota. To date, U.S.V.I. government considers the discharge to be meeting this water quality condition, despite the persistent and threatening appearance of this massive plume.

The EPA, in cooperation with the U.S.V.I. Department of Planning and Natural Resources, conducted an ocean monitoring survey to characterize the receiving waters directly influenced by the VIRIL discharge. The survey was designed to assist the U.S.V.I. government in making determinations on the VIRIL discharge, required by the CBERA exemption, based on conclusive environmental observation.

Sampling and monitoring activities were performed to analyze the receiving water for water quality physical and chemical parameters, aquatic toxicity, and light attenuation caused by the dark plume. Diving operations were performed to collect samples of sea grasses and sediments, and to make observations of coral reef conditions. Results of the survey demonstrate impacts and potential impacts that should be considered when evaluating the VIRIL discharge for the CBERA exemption. It can be concluded that the discharge threatens the propagation of a balanced population of fish and wildlife, including federally listed endangered species, by its oxygen demanding and light attenuating properties. It has also been shown that the discharge may pose an unacceptable risk because of the acute and chronic toxicity that was demonstrated in the receiving water. Findings of the survey resulted in the U.S.V.I. entering into an MOU with EPA to establish a funding mechanism for study and potential implementation of wastewater treatment options for VIRIL.